ELSEVIER

Volume 274 Numbers 1–2, 26 June 1998

Journal of ALLOYS AND COMPOUNDS

Contents

Announcement ix

Letter

Crystallographic data for new ternary UCo_5Si_3-type RRh_5Si_3 (R=Sm, Gd–Tm) compounds L1
A.V. Morozkin, Yu.D. Seropegin, I.A. Sviridov (Moscow, Russian Federation), O.I. Bodak (L'viv, Ukraine)

Physics

Luminescence and crystal field parameters of the $Na_3[Eu(DPA)_3]\cdot 12H_2O$ complex in a single crystalline state 1
J.-G. Kim, S.-K. Yoon, Y. Sohn, J.-G. Kang (Taejeon, Republic of Korea)

Magnetic properties of α'-FeN_x and α''-$Fe_{16}N_2$ nitrides 10
P. Bezdička, A. Klárikóvá, I. Paseka, K. Závěta (Prague, Czech Republic)

A computational study of structural transitions in NpAs and NpTe induced by pressure 18
Ch.U.M. Trinadh, M. Rajagopalan, S. Natarajan (Chennai, India)

Magnetic properties of amorphous YFe_2 obtained by milling 23
C. Larica, E.C. Passamani, E. Nunes, M.T.D. Orlando, K.M.B. Alves (Vitória, Brazil), E. Baggio-Saitovitch (Rio de Janeiro, Brazil)

Hydrogen induced phase transitions in YMn_2 29
H. Figiel, J. Przewoznik (Krakow, Poland), V. Paul-Boncour (Thiais, France), A. Lindbaum, E. Gratz (Wien, Austria), M. Latroche, M. Escorne, A. Percheron-Guégan (Thiais, France), P. Mietniowski (Krakow, Poland)

Chemical shifts in the X-ray absorption near-edge structure spectra of UBr_n (n=3, 4, 5) and Cs_2LiUX_6 (X=F, Cl, Br, I) . . . 38
Z. Hu, G. Kaindl (Berlin–Dahlem, Germany), G. Meyer (Köln, Germany)

Local environment of Fe in $NdFe_{1-x}Ni_xO_{3-\delta}$ perovskite oxides 42
A. Tiwari (Kanpur, India)

^{57}Fe Slater–Pauling dependence in the $Dy(Fe_{1-x}Al_x)_2$ intermetallic system 47
J. Pszczoła (Kraków, Poland), B. Gicala (Bielsko-Biała, Poland), J. Suwalski (Świerk-Otwock, Poland)

Oxygen related ultrasonic attenuation and elastic anomalies in $EuBa_2Cu_3O_{7-\delta}$ (δ~0.02 and 0.45) 55
E. Marlianto, M. Yahya, M.M. Salleh, R. Abd-Shukor (Selangor Darul Ehsan, Malaysia)

Temperature dependence study of $YMn_2D_{4.5}$ by means of neutron powder diffraction 59
M. Latroche, V. Paul-Boncour, A. Percheron-Guégan (Meudon, France), F. Bourée-Vigneron (Gif sur Yvette, France)

Physical properties of $UMn_{4-x}Fe_xAl_8$ alloys for low Fe concentration 65
W. Suski, K. Wochowski (Wrocław, Poland)

Low temperature properties of calcium mono- and disilicides 68
M. Affronte (Modena, Italy), O. Laborde (Grenoble, France), G.L. Olcese, A. Palenzona (Genova, Italy)

The new cubic iron-nitride phase FeN prepared by reactive magnetron sputtering 74
L. Rissanen, M. Neubauer, K.P. Lieb, P. Schaaf (Göttingen, Germany)

Magnetic order in the $TbCo_6Ge_6$ and $TbCo_2Ge_2$ compounds: A neutron study 83
P. Schobinger-Papamantellos (Zürich, Switzerland), J. Rodríguez-Carvajal (Gif-sur-Yvette, France), K.H.J. Buschow (Amsterdam, The Netherlands)

Chemistry

The influence of various factors in the reduction of cuprous chloride by titanium: a kinetics study 90
B. Gillot (Dijon, France), M. Radid, K. Sbai (Casablanca, Morocco), H. Souha (Fès, Morocco)

High-temperature thermodynamics of oxygen equilibrium of solid solutions $YBa_2Cu_{3-x}Zn_xO_{6+\delta}$ with gas phase 98
E.B. Mitberg, M.V. Patrakeev, I.A. Leonidov, A.A. Lakhtin (Yekaterinburg, Russia), V.L. Kozhevnikov, K.R. Poeppelmeier (Evanston, IL, USA)

Elsevier Science S.A.

The relation between high-temperature thermopower, conductivity and oxygen content in $YBa_2Cu_3O_{6+x}$ 103
E.B. Mitberg, M.V. Patrakeev, A.A. Lakhtin, I.A. Leonidov (Yekaterinburg, Russian Federation), V.L. Kozhevnikov, K.R. Poeppelmeier (Evanston, IL, USA)

Formation and characterization of lead magnesium niobate synthesized from the molten salt of potassium chlorate 110
D.M. Wan, J. Wang, S.C. Ng, L.M. Gan (Singapore, Singapore)

Synthesis and structure of β-$Ca_3Ga_2N_4$, a ternary nitride with two interpenetrating three dimensional nets 118
S.J. Clarke, F.J. DiSalvo (Ithaca, NY, USA)

Structure of perovskite type compounds, $ALaMnTaO_6$ (A=Sr, Ba) 122
T. Horikubi, H. Watanabe, N. Kamegashira (Toyohashi, Japan)

X-ray characterisation of $Zn_{1-x}Co_xS$ single crystals grown by chemical vapour transport 128
W. Paszkowicz, J. Domagała, Z. Gołacki (Warsaw, Poland)

The crystal structure of AuMnSn 136
A. Neumann, L. Offernes, A. Kjekshus, B. Klewe (Oslo, Norway)

Phase diagram of the ternary system $CeCl_3$–KCl–LiCl 142
T. Shujian, L. Qingfan, L. Shixiang, Z. Chaogui (Beijing, China)

Electronic properties of dilute Cr in liquid silver 148
P. Terzieff (Wien, Austria), R. Lück (Stuttgart, Germany), J. Auchet (Metz, France)

Thermodynamic stabilities of Ln_2BaO_4 (Ln=Nd, Sm, Eu or Gd) by CaF_2-based Emf measurements 153
R. Subasri, O.M. Sreedharan (Tamil Nadu, India)

Spectroscopic properties of the trivalent terbium ion in the huntite matrix $TbAl_3(BO_3)_4$ 157
I. Couwenberg, K. Binnemans, H. De Leebeeck, C. Görller-Walrand (Heverlee, Belgium)

EPR and optical investigation of europium doped $Ba_2Mg_3F_{10}$ 164
J.M. Rey, H. Bill, D. Lovy, H. Hagemann (Genève, Switzerland)

Crystal structure and properties of $Ba_5Fe_4Ti_{10}O_{31}$ 169
T. Siegrist (Murray Hill, NJ, USA), T.A. Vanderahb (Gaithersburg, MD, USA), A.P. Ramirez (Murray Hill, NJ, USA), R.G. Geyer (Boulder, CO, USA), R.S. Roth (Gaithersburg, MD, USA)

Crystal structure of $Nd_4Fe_{1.3}Ge_{7.5}$ 179
L. Zeng, H.F. Franzen (Ames, Iowa, USA)

Metallurgy

Crystal structure of the compound $CePd_5Ge_3$ 182
Yu.D. Seropegin, A.V. Gribanov, V.V. Chernyshov, V.B. Rybakov (Moscow, Russia), O.I. Bodak (L'viv, Ukraine)

Solid solubility of hafnium in nickel 185
M. Hajjaji (Marrakech, Morocco)

Microstructure of aged binary nickel–hafnium alloy 189
M. Hajjaji (Marrakech, Morocco)

Standard enthalpies of formation of some 4d transition metal silicides by high temperature direct synthesis calorimetry 193
S.V. Meschel, O.J. Kleppa (Chicago, IL, U.S.A)

Isothermal sections of the Ru–Si–Ge, Ru–Ge–Sn and Ru–Si–Sn systems at 900°C 201
L. Perring (Lausanne, Switzerland and Vandoeuvre-lès-Nancy, France), F. Bussy (Lausanne, Switzerland), J.C. Gachon (Vandoeuvre-lès-Nancy, France)

The miscibility gap region and liquid–liquid equilibrium in immiscible In–Tl–Te alloys 206
Yu. Plevachuk, V. Didoukh, B. Sokolovskii (Lviv, Ukraine)

Thermodynamic analysis of the Cr–Re system and prediction of the Cr–Ni–Re system 209
W. Huang, Y.A. Chang (Madison, WI, USA)

Neutron diffraction studies of Zr-containing intermetallic hydrides with ordered hydrogen sublattice. I. Crystal structure of Zr_2FeD_5 217
V.A. Yartys (Kjeller, Norway and Lviv, Ukraine), H. Fjellvåg (Kjeller, and Oslo, Norway), B.C. Hauback (Kjeller, Norway), A.B. Riabov (Lviv, Ukraine)

Materials Science

Formation of the Cu_3Au type solid solution of UPd_3 by doping a small amount of URu_3 222
K. Kurosaki, M. Uno (Osaka, Japan)

In situ fabrication of Si_3N_4/SiC nanocomposite using a commercial polymer 229
C.-S. Kim, Y.-S. Oh, W.-S. Cho, D.-S. Lim, D.-S. Cheong (Seoul, South Korea)

On the possibility of metal hydride formation. Part I. The synthesis of $MgNi_3B_2$ by mechanical milling and sintering 234
K.J. Gross, A. Züttel, L. Schlapbach (Fribourg, Switzerland)

On the possibility of metal hydride formation. Part II: Geometric considerations 239
K.J. Gross, A. Züttel, L. Schlapbach (Fribourg, Switzerland)

Structure and magnetic properties of ball-milled iron nitride powders 248
I. Paseka, P. Bezdička, A. Kláriková, K. Závěta (Prague, Czech Republic)

The effect of heat treatment on the electrode characteristics of the ball-milled Zr–Cr–Ni 254
C.B. Jung, K.S. Lee (Seoul, South Korea)

Mechanically induced reduction of ilmenite ($FeTiO_3$) and rutile (TiO_2) by magnesium 260
N.J. Welham (Canberra, Australia)

Composite hydride electrode materials 266
Q.M. Yang, M. Ciureanu, D.H. Ryan, J.O. Strom-Olsen (Montreal, Canada)

The spin reorientation in $Nd_2Fe_{14}B$ in the presence of inter-grain exchange coupling 274
Z.D. Zhang (Shenyang, China), X.C. Kou, F.R. de Boer, K.H.J. Buschow (Amsterdam, The Netherlands)

The influence of the annealing temperature on the elctrochemical properties and the structure of the melt-spun $ML(NiMnTiCo)_5$ hydrogen-storage alloy 278
C.-J. Li, X.-L. Wang (Beijing, China)

Formation of modified $TbCu_7$ and Th_2Zn_{17} type structures during annealing of mechanical-alloyed Sm–Fe powders 284
A. Teresiak, M. Kubis, N. Mattern, M. Wolf, K.-H. Müller (Dresden, Germany)

Hydriding properties of the $Zr(Cr_{0.5}Ni_{0.5})_\alpha$ ($1.75 \leq \alpha \leq 3.5$) alloy system 294
E. Boschung, A. Züttel, D. Chartouni, L. Schlapbach (Fribourg, Switzerland)

Synthesis and electrochemical properties of high-energy ball-milled Laves phase $(Zr,Ti)(V,Mn,Cr)_2$ alloys with nickel powder . 299
M. Jurczyk, W. Rajewski, W. Majchrzycki, G. Wójcik (Poznań, Poland)

Mechanochemical reduction of $FeTiO_3$ by Si 303
N.J. Welham (Canberra, Australia)

Corrigendum 309

Author Index of Volume 274 311

Subject Index of Volume 274 313

CONTENTS DIRECT

ContentsDirect, the ***free*** e-mail alerting service, delivers the table of contents for this journal directly to your PC, prior to publication. The quickest way to register for **ContentsDirect** is via the Internet at: **http://www.elsevier.nl/locate/ContentsDirect**. If you don't have access to the Internet you can register for this service by sending an e-mail message to cdsubs@elsevier.co.uk – specifying the title of the publication you wish to register for.